APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/770,932	01/26/2001	Charles J. Mott	500583.20019	8222

7590 05/27/2004	EXAMINER
Eugene LeDonne, Esq. Reed Smith LLP 375 Park Ave., 17th Floor New York, NY 10152	KIANERSI, MITRA

ART UNIT	PAPER NUMBER
2143	

DATE MAILED: 05/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _03_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _26 January 2001_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-29_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-29_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _26 January 2001_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _4_.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

Claims 1-29 have been examined.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-29 are rejected under 35 U.S.C. 102(e) as being anticipated by Rueda

et al. (US 2002/0112076)

1.   As per claim 1, Rueda et al. teach a method of virtual private networking,

comprising: receiving a request from at least one user for at least one address Upon

receiving an ARP request from (A), [0144] that can be translated by a second DNS

server; detecting that the at least one address cannot be translated by a first DNS

server, wherein the first DNS server is then in use by the user; Requests are made to

DNS servers for the IP addresses that map to the appropriate domain-names. (It is

expected that the typical client be configured for a local DNS server. In any event, the

DNS server that it is configured for would provide the same services as any other DNS

server except in the resolution of local and/or private domain-names. [0108],

redirecting the request from the first DNS server to a gateway, wherein the gateway

directs the request to the second DNS server, (The System detects any ARP requests

that are generated on the client-side network. These would be present as the clients

attempt to discover the physical address of the network adapters bound to a particular

IP address. Common ARP requests would be for a client's specified gateway for

accessing IP addresses that are not on their subnet. [0106] and wherein the second

DNS server resolves the request and returns the address to the gateway; and receiving,

from the gateway, the requested address formatted according to the first DNS server. (All DNS queries are transparently peroxide to a DNS server accessible to the System server. If the name is not resolved, it is assumed that the DNS request was for that of a local or private IP address. In this case the System returns the System client-side IP address as it attempts to emulate any local machine. A common occurrence that falls in this category would be to resolve the specified HTTP proxy. [0109])

2.   As per claim 2, wherein the first DNS server is a dial-in server for an ISP. (This server would also have a connection to an ISP [0063])

3.   As per claim 3, wherein said receiving a user request comprises receiving a user request over at least one communication media selected from the group consisting of a modem, a cable modem, and a DSL. (This server would also have a connection to an ISP in whatever manner was desired (leased line, cable modem, or modem dial-up). [0063])

4.   As per claim 4, wherein the first DNS server is a familiar server associated with a dial-in service. (configured for dial-up Internet access (i.e. using a modem or ISDN line) [0173])

5.   As per claim 5, wherein the first DNS server is an unfamiliar server associated with a dial-in service. (configured for dial-up Internet access (i.e. using a modem or ISDN line) [0173])

6.   As per claim 6, the method further comprising installing a client, wherein the client performs said receiving a request from a user, detecting, and receiving the requested address. (The System detects any ARP requests that are generated on the client-side network. These would be present as the clients attempt to discover the physical address of the network adapters bound to a particular IP address. Common ARP requests would be for a client's specified gateway for accessing IP addresses that

are not on their subnet. [0106])

7.   As per claim 7, the method wherein the user request received is for an internal address. (internal and external IP addresses. [0168])

8.   As per claim 8, the method wherein said detecting comprises: attempting to obtain a resolution of the requested address by the first DNS server; failing to receive a resolution from the first DNS server. (It is expected that the typical client be configured for a local DNS server. In any event, the DNS server that it is configured for would provide the same services as any other DNS server except in the resolution of local and/or private domain-names. Since these domain-names would not be local when using the System (mobile client), resolution for these would not be required. [0108], If the name is not resolved, it is assumed that the DNS request was for that of a local or private IP address. In this case the System returns the System client-side IP address as it attempts to emulate any local machine. A common occurrence that falls in this category would be to resolve the specified HTTP proxy. [0109])

9.   As per claim 9, the method wherein the first DNS server is an external DNS server. (Since the proxy must masquerade as all external systems, [0168]

10.   As per claim 10, the method wherein said detecting further comprises activating a switch, wherein the switch, when inactive, points to the first DNS server, and, when active, points to the gateway. (the solution is to use of an Ethernet switch workgroup switch, LAN switch, switched hub, or Layer 2 switch. Ethernet switches are a relatively new class of interconnect product which provide the capability to increase the aggregate LAN bandwidth dramatically, because it allows for the simultaneous switching of packets between ports [3]. Each port on the Ethernet switch is attached to a shared segment (in our case a single client). Each shared segment can be allocated an internal bandwidth equal to 10 Mbps, allowing for an aggregate throughput of several times that

of a single 10Base-T shared segment. A similar solution for the realization of increased aggregate bandwidth is provided by segmentable hubs. [0146] and [0147])

11.   As per claim 11, the method wherein said redirecting comprises: translating a first address of the first DNS server to a second address of the gateway, (InterProxy then dynamically sets up a session to translate traffic into a valid IP address between the user and other network resources such as the Internet or local printers. [0020]) wherein the gateway redirects the request to the second DNS server. (the System need to redirect this packet to the System server-side and the server-side network adapter card will receive this packet normally.[0358])

12.   As per claims 12 and 18, the method wherein said translating comprises overriding the first address of the first DNS server. (override learned IP addresses in a network [0011])

13.   As per claims 13 and 17, the method wherein said redirecting further comprises encrypting communication to the gateway. (The PPP packets are then encrypted and tunneled through the new virtual connection, and the client is now a virtual node on the corporate LAN, one that just happens to be located across the Internet. [0175])

14.   As per claim 14, the method wherein the gateway unencrypts the communication prior to directing the communication to the second DNS server. (the System need to redirect this packet to the System server-side and the server-side network adapter card will receive this packet normally.[0358])

15.   As per claim 15, the method further comprising receiving at least one security check before said redirecting to the gateway. (a security mechanism may be introduced at the proxy server itself. Most commercial proxy programs come equipped with the ability to allow connections through only a certain number of interfaces. [0168])

16.   As per claim 16, a redirector that redirects a domain name service inquiry from a domain name server that cannot resolve the inquiry to a domain name service server that can resolve the inquiry, comprising: a client; at least one switch on said client; a gateway communicatively connected to said client; wherein said switch receives at least one domain name service inquiry directed to a first domain name server from said client; and wherein, upon activation of said at least one switch, said switch redirects the at least one domain name service inquiry to at least one second domain name server through said gateway, which at least one second domain name server returns to said gateway a resolution of the at least one domain name service inquiry. (It is expected that the typical client be configured for a local DNS server. In any event, the DNS server that it is configured for would provide the same services as any other DNS server except in the resolution of local and/or private domain-names. Since these domain-names would not be local when using the System (mobile client), resolution for these would not be required. [0108], If the name is not resolved, it is assumed that the DNS request was for that of a local or private IP address. In this case the System returns the System client-side IP address as it attempts to emulate any local machine. A common occurrence that falls in this category would be to resolve the specified HTTP proxy. [0109]) and (the System need to redirect this packet to the System server-side and the server-side network adapter card will receive this packet normally.[0358])

17.   As per claim 19, the redirector wherein the user activates override. (the step is inherent, because in this case only user can activate the override).

18.   As per claim 20, the redirector wherein said override is activated only when the first domain name server cannot resolve the at least one domain name service inquiry. (It is expected that the typical client be configured for a local DNS server. In any event, the DNS server that it is configured for would provide the same services as any other DNS server except in the resolution of local and/or private domain-names. Since these domain-names would not be local when using the System (mobile client), resolution for these would not be required. [0108], If the name is not resolved, it is assumed that the

DNS request was for that of a local or private IP address. In this case the System returns the System client-side IP address as it attempts to emulate any local machine. A common occurrence that falls in this category would be to resolve the specified HTTP proxy. [0109])

19.   As per claim 21, wherein said override overrides all domain name service inquiries upon activation. (the step is inherent, because that is the function of override in the domain name service inquiries).

20.   As per claim 22, the redirector of claim 16, further comprising a destination, wherein the resolution includes the destination, and wherein said at least one-second domain name server returns to gateway information from the destination. (FIG. 2 is a schematic illustration of by which the System Retrieves the destination address from the client table using source IP and port number. [0072])

21.   As per claim 23, the redirector wherein said gateway comprises an address overwriter that changes a destination address on the at least one domain name service inquiry from the first domain name server to the second domain name server. (the solution to the problem of getting packets destined for a client with the same IP address as another client is to correct the result returned when the System server does a lookup in its ARP table or issues an ARP request. This is accomplished by storing the 6 byte Ethernet (MAC) address of all clients using the System server for the duration of each connection. Once stored, this Ethernet address is used to overwrite all destinations, Ethernet addresses entered into packets by the OS using traditional ARP services before the packets are sent out to the clients. [0135]).

22.   As per claim 24, the redirector wherein said gateway further returns the resolution to said client, and wherein said address overwriter overwrites a second address of the second domain name server with a first address of the first domain name server within the resolution for return to said client. (the solution to the problem of

getting packets destined for a client with the same IP address as another client is to correct the result returned when the System server does a lookup in its ARP table or issues an ARP request. This is accomplished by storing the 6 byte Ethernet (MAC) address of all clients using the System server for the duration of each connection. Once stored, this Ethernet address is used to overwrite all destination Ethernet addresses entered into packets by the OS using traditional ARP services before the packets are sent out to the clients. [0135])

23.   As per claim 25, the redirector wherein the communicative connection comprises an ISP connection, (This server would also have a connection to an ISP [0063]) and wherein the communicative connection comprises an encrypted connection. (the PPP packets are then encrypted and tunneled through the new virtual connection, and the client is now a virtual node on the corporate LAN, one that just happens to be located across the Internet. [0175])

24.   As per claim 24, the redirector wherein said client comprises a VPN client, and wherein said gateway comprises a VPN gateway, and wherein said switch comprises software code resident on said VPN client. (this code deals with receiving IP packets from any System clients and dealing with them appropriately. [0289])

25.   As per claim 25, the redirector wherein said VPN client comprises software resident on at least one computer. (installation of server software [0015])

26.   As per claim 26, a virtual private network using domain name service proxy that redirects a domain name service inquiry from a first domain name server that cannot resolve the inquiry to a second domain name service server that can resolve the inquiry, comprising: a user computer in communicative connection with a VPN client; at least one switch within said VPN client; a VPN gateway communicatively connected to said VPN client; wherein said switch receives at least one domain name service inquiry directed to the first domain name server from said VPN client; wherein, upon activation of said at least one switch, said switch redirects the at least one domain name service

inquiry away from the first domain name server to the second domain name server through said gateway, by sending at least one encrypted payload including therein the at least one domain name service inquiry to said gateway, which gateway then unencrypts the payload and sends the payload to the second domain name server; and wherein the second domain name server returns to said gateway a resolution of the at least one domain name service inquiry, wherein the resolution includes therein information from a destination address for the at least one domain name service inquiry; and wherein said gateway encrypts the information and returns the information to said VPN client. (the solution is to use of an Ethernet switch workgroup switch, LAN switch, switched hub, or Layer 2 switch. Ethernet switches are a relatively new class of interconnect product which provide the capability to increase the aggregate LAN bandwidth dramatically, because it allows for the simultaneous switching of packets between ports [3]. Each port on the Ethernet switch is attached to a shared segment (in our case a single client). Each shared segment can be allocated an internal bandwidth equal to 10 Mbps, allowing for an aggregate throughput of several times that of a single 10Base-T shared segment. A similar solution for the realization of increased aggregate bandwidth is provided by segmentable hubs [32]. [0146], [0147]) and (It is expected that the typical client be configured for a local DNS server. In any event, the DNS server that it is configured for would provide the same services as any other DNS server except in the resolution of local and/or private domain-names. Since these domain-names would not be local when using the System (mobile client), resolution for these would not be required. [0108] If the name is not resolved, it is assumed that the DNS request was for that of a local or private IP address. In this case the System returns the System client-side IP address as it attempts to emulate any local machine. A common occurrence that falls in this category would be to resolve the specified HTTP proxy. [0109]) and (the System need to redirect this packet to the System server-side and the server-side network adapter card will receive this packet normally. [0358])

27.   As per claim 27, a virtual private network, comprising: means for receiving a request from at least one user for at least one address that can be translated by a

second DNS server; means for detecting that the at least one address cannot be translated by a first DNS server, wherein the first DNS server is then in use by the user; means for redirecting the request from the first DNS server to a gateway, wherein the gateway directs the request to the second DNS server, and wherein the second DNS server resolves the request and returns the address to the gateway; and means for receiving, from the gateway, the requested address formatted according to the first DNS server. (the solution is to use of an Ethernet switch workgroup switch, LAN switch, switched hub, or Layer 2 switch. Ethernet switches are a relatively new class of interconnect product which provide the capability to increase the aggregate LAN bandwidth dramatically, because it allows for the simultaneous switching of packets between ports [3]. Each port on the Ethernet switch is attached to a shared segment (in our case a single client). Each shared segment can be allocated an internal bandwidth equal to 10 Mbps, allowing for an aggregate throughput of several times that of a single 10Base-T shared segment. A similar solution for the realization of increased aggregate bandwidth is provided by segmentable hubs [32]. [0146], [0147]) and (It is expected that the typical client be configured for a local DNS server. In any event, the DNS server that it is configured for would provide the same services as any other DNS server except in the resolution of local and/or private domain-names. Since these domain-names would not be local when using the System (mobile client), resolution for these would not be required. [0108] If the name is not resolved, it is assumed that the DNS request was for that of a local or private IP address. In this case the System returns the System client-side IP address as it attempts to emulate any local machine. A common occurrence that falls in this category would be to resolve the specified HTTP proxy. [0109]) and (the System need to redirect this packet to the System server-side and the server-side network adapter card will receive this packet normally. [0358])

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mitra Kianersi whose telephone number is (703) 305-4650. The examiner can normally be reached on 7:00AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wiley can be reached on (703) 308-5221. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Mitra Kianersi
May/18/2004

DAVID WILEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100